

# The Coming Revolutions in Particle Physics

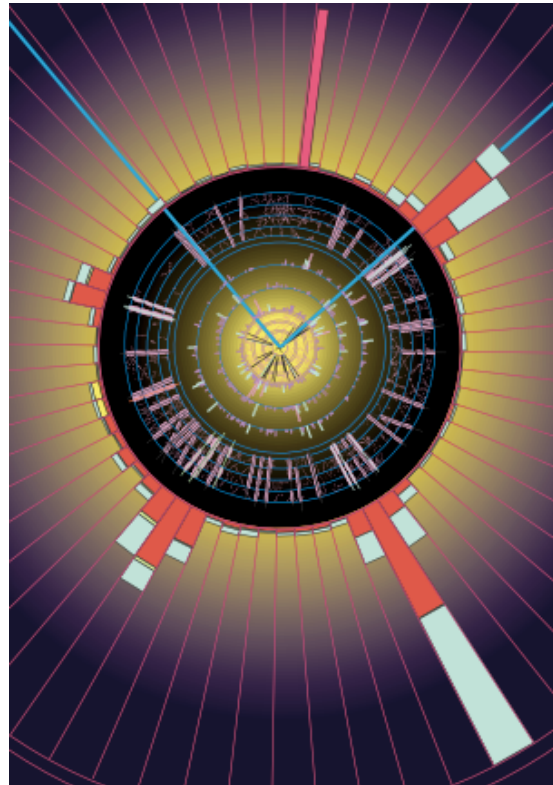
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*From the 1898–99 University of Chicago catalogue:*

“While it is never safe to affirm that the future of the Physical Sciences has no marvels in store even more astonishing than those of the past, it seems probable that most of the grand underlying principles have been firmly established and that further advances are to be sought chiefly in the rigorous application of these principles to all the phenomena which come under our notice ... An eminent physicist has remarked that the future truths of Physical Science are to be looked for in the sixth place of decimals.”

*Galileo's Three Revolutions*

1. Eppur si muove
2. Cimenti = tests / trials / ordeals
3. The minute particular



*Four Experimental Campaigns*

1. The Top Quark
2. Neutrino Oscillations
3. Search for the Higgs Boson
4. Extra Spacetime Dimensions

*Five Themes for the Next Decade*

1. Elementarity
2. Symmetry
3. Unity
4. Identity
5. Topography

*The Great Lesson of Science in the Twentieth Century*

The human scale is not privileged for understanding Nature ...  
... and may even be disadvantaged